

## REMARKS

Claims 1, 3-10, 16-26, 29-34, 41, 43-47, 49, 50, and 53 remain pending in the instant application. All claims presently stand rejected. Claims 21, 29, 30, 32, and 46 are amended herein. Claims 28 and 35-40 are hereby cancelled without prejudice. Entry of this amendment and reconsideration of the pending claims are respectfully requested.

### *Claim Rejections – 35 U.S.C. § 112*

Claims 21 and 46 stand rejected under 35 USC §112, second paragraph as being indefinite. Claims 21 and 46 have been amended to address the Examiner's concerns.

### *Claim Rejections – 35 U.S.C. § 103*

Claims 1, 3-10, 16-20, 32-46, 50, and 53 stand rejected under 35 U.S.C. § 103(a) as being unpatenable over Goebel (US 6,289,505) in view of Schmidt (US 2003/0051234 A1). These rejections of independent claims 1, 18, 32, 41, and 50 are respectfully traversed without amendment.

Claims 21, 22, 25, 26, 28-31, 46, 47, and 49 stand rejected under 35 U.S.C. § 103(a) as being unpatenable over Goebel in view of Schmidt in further view of Shupak (US 6,874,410).

Claims 23 and 24 stand rejected under 35 U.S.C. § 103(a) as being unpatenable over Goebel, Schmidt, and Shupak in further view of the alleged Applicant's Admitted Prior Art.

"To establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. All words in a claim must be considered in judging the patentability of that claim against the prior art." M.P.E.P. § 2143.03.

Independent claim 1 recites, in pertinent part,

**executing the intermediate code based on external execution input;**  
generating data that indicates performance of the intermediate code when  
the intermediate code is executed with the external execution input; and  
producing machine code based on the data and the intermediate code.

Applicants respectfully submit that the combination of Goebel and Schmidt fails to disclose, teach, or suggest executing intermediate code based on external execution input to generate data indicating performance of the intermediate code. .

The Office Action acknowledges “Goebel does not explicitly disclose executing an intermediate code based on external execution unit.” *Office Action* mailed 8/24/07, page 4. Consequently, the Office Action cites Schmidt as disclosing this missing element. However, Schmidt also fails to teach or suggest executing intermediate code based on external execution input. To be sure, Schmidt recites,

Back-end compiler 120 also includes a profiler 124 that is used to obtain profile data 126 **when the machine code 125 is run with a set of sample inputs**. As used herein, the term “**sample inputs**” means **inputs that simulate real-world execution of the machine code** in its intended environment. (Schmidt, para. [0030])

**Profile data is then gathered from executing the machine code** from a set of sample inputs. (Schmidt, para. [0039])

Once the profiler 624 has **generated profile data 626 for the machine code** that is output by the machine code emitter 622, the profile data 626 may be examined to determine how often each target method that corresponds to a virtual method call was actually invoked **during the sample execution of the machine code**. (Schmidt, para. [0042])

Next, a user runs the instrumented program (i.e., **machine code** generated on the first pass of the back-end compiler) on sample inputs to gather profile data (step 730). (Schmidt, para. [0044])

Accordingly, these portions of Schmidt clearly disclose that **only** machine code 125 or 625 is executed based on sample inputs. Referring to FIG. 6, Schmidt clearly differentiates between source code 105, intermediate representation 615, and machine code 625. Schmidt only ever discloses that machine code 125 (FIG. 1) or machine code 625 (FIG. 6) is executed with sample inputs to generate profile data 626. As such, Schmidt fails to teach or suggest executing intermediate representation 115 or 615 using external execution input to generate data indicating performance of the intermediate representation code.

Consequently, the combination of Goebel and Schmidt fails to teach or suggest all elements of claim 1, as required under M.P.E.P. § 2143.03. Independent claims 18,

32, 41, and 50 include similar nonobvious elements as independent claim 1. Accordingly, Applicants request that the instant §103(a) rejections of claims 1, 18, 32, 41, and 50 be withdrawn.

Independent Claims 21 and 46

Amended independent claim 21, now recites, in pertinent part,

iteratively:

**determining whether to produce further modified intermediate code and further modified machine code based upon whether a predetermined performance gain has been achieved in the modified machine code over the machine code;** and, if the further modified intermediate code and the further modified machine code are to be produced:

- providing the modified machine code to the profiler;
- receiving another data file from the profiler; and
- producing the further modified intermediate code and the further modified machine code based upon the source code and the another data file.

Applicants respectfully submit that the combination of Goebel, Schmidt, and Shupak fails to disclose, teach, or suggest determining whether to perform an additional iteration to produce further modified intermediate and machine code based upon whether the previous iteration achieved a predetermined performance gain.

With respect to claim 28 (now cancelled), the Office Action acknowledges, “Goebel does not explicitly disclose wherein determining whether to produce further modified machine code comprises determining whether a predetermined performance gain has been achieved.” *Office Action* mailed 8/24/07, page 14. Consequently, the Office Action cites FIG. 7 and col. 10, lines 61-67 of Shupak as teaching this missing element. *Id.* However, the cited portion of Shupak in fact states,

Method 700 includes receiving or reading an annotation debug information in an executable computer program 710. In one embodiment, the annotation debug information was generated from an annotation function call in the source code that the executable computer program was compiled from. In another embodiment, the annotation debug information includes information.

This portion of Shupak fails to make any reference to a predetermined performance gain. This portion of Shupak also fails to teach or suggest using a predetermined performance gain from a previous iteration to determine whether or not to perform an additional

iteration to produce further modified intermediate code and further modified machine code.

Consequently, the combination of Goebel, Schmidt, and Shupak fails to teach or suggest all elements of claim 21, as required under M.P.E.P. § 2143.03. Independent claim 46 includes similar nonobvious elements as independent claim 21. Accordingly, Applicants request that the instant §103(a) rejections of claims 21 and 46 be withdrawn.

#### Dependent Claims

The dependent claims are nonobvious over the prior art of record for at least the same reasons as discussed above in connection with their respective independent claims, in addition to adding further limitations of their own. Accordingly, Applicants respectfully request that the instant § 103 rejections of the dependent claims be withdrawn.

#### **CONCLUSION**

In view of the foregoing amendments and remarks, it is believed that the applicable rejections have been overcome and all claims remaining in the application are presently in condition for allowance. Accordingly, favorable consideration and a Notice of Allowance are earnestly solicited. The Examiner is invited to telephone the undersigned representative at (206) 292-8600 if the Examiner believes that an interview might be useful for any reason.

### CHARGE DEPOSIT ACCOUNT

It is not believed that extensions of time are required beyond those that may otherwise be provided for in documents accompanying this paper. However, if additional extensions of time are necessary to prevent abandonment of this application, then such extensions of time are hereby petitioned under 37 C.F.R. § 1.136(a). Any fees required therefore are hereby authorized to be charged to Deposit Account No. 02-2666. Please credit any overpayment to the same deposit account.

Respectfully submitted,

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